

REMARKS

In an Office Action dated April 13, 2010 (the “Office Action”), the Examiner rejected claims 103, 104, 106, and 107 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent Number 6,019,165 issued to Batchelder (“Batchelder ‘165”) in view of U.S. Patent Publication US 2003/0056939 to Chu et al. (“Chu”), U.S. Patent No. 6,021,844 (“Batchelder ‘844”), U.S. Patent Publication US 2006/0169440 to Chou et al. (“Chou”), and further in view of U.S. Patent Publication US 2004/0141275 to Athari (“Athari”); rejected claims 70-84, 87, 105, and 108-112 under 35 U.S.C. §103(a) as being unpatentable over Batchelder ‘165 in view of Chu, Batchelder ‘844, Chou, Athari, and further in view of U.S. Patent No. 6,114,827 issued to Alvaro (“Alvaro”); rejected claims 85, 86, and 88 under 35 U.S.C. §103(a) as being unpatentable over Batchelder ‘165 in view of Chu, Batchelder ‘844, Chou, Athari, Alvaro and further in view of U.S. Patent No. 6,668,911 issued to Bingler.

Applicant does not necessarily agree with these rejections. However, in order to expedite prosecution, Applicant amends claims 70, 72, 77, 103, 108 and 112 and cancels claims 71, 75, 76, 83, 84, 86, and 87. By this response, Applicant also cancels previously withdrawn claims 89 and 95 as these were presented in a divisional application (U.S. Patent Application no. 12/826,802) filed on June 30, 2010. By this response, Applicant also adds new claims 113-117 as provided above. Support for the claim amendments and new claims may be found in at least Fig. 15 and the corresponding description in the originally filed specification. Claims 70, 72-74, 77-82, 85, 88, and 103-117 are therefore currently pending. Of these claims, claims 70, 103, and 108 are independent.

Rejections of claims 103, 104, 106, and 107

Of these claims, claim 103 is independent and claims 104, 106, and 107 depend from independent claim 103. By this response, Applicant amends independent claim 103.

Amended independent claim 103 recites a cooling system for a computer system including, among others, a reservoir with an “upper chamber and a separate lower chamber having a recessed cavity,” wherein the “the stator [is] positioned in the upper chamber and the impeller [is] positioned in the recessed cavity such that an entire bottom face of the impeller is completely exposed to an inside surface of the heat exchanging interface.”

In the Office Action, the Examiner relies on Batchelder ‘165 for teaching these aspects of claim 103. Office Action, pgs. 2-3. Batchelder ‘165 discloses an heat exchange apparatus that includes a heat spreader plate 20 having a lower surface 24 in contact with a heat generating electronic device 2. The heat spreader plate 20 includes a heat transfer fluid circulated therein and an impeller 54 is embedded within the heat spreader plate 20 to assist in the circulation of the heat transfer fluid. Fig. 2. However, Batchelder ‘165 does not disclose a reservoir with separate upper and lower chambers, wherein the lower chamber includes a recessed cavity, and the “the stator [is] positioned in the upper chamber and the impeller [is] positioned in the recessed cavity such that an entire bottom face of the impeller is completely exposed to an inside surface of the heat exchanging interface,” as recited in amended independent claim 103. See Figs. 2, 5, 7, 13.

Chu, Batchelder ‘844, Chou, and Athari do not remedy this deficiency. At least for these reasons, Batchelder ‘165, Batchelder ‘844, Chu, Chou, and Athari, alone or in combination, do not disclose or suggest the limitations recited in amended independent claim 103. Therefore, amended independent claim 103 is allowable over these references. Claims 104, 106, and 107

depend from independent claim 103, and are therefore, also allowable over these references at least for the same reason that claim 103 is allowable.

Rejections of claims 70-84, 87, 105, and 108-112

In the Office Action, these claims were rejected as being obvious over Batchelder '165 in view of Chu, Batchelder '844, Chou, Athari, and Alvaro. Office Action, pg. 6. Among these claims, claims 71, 75, 76, 83, 84, and 87 have been cancelled. Among the remaining claims, claims 70 and 108 are independent. By this response, both independent claims 70 and 108 are amended.

Amended independent claim 70 recites a cooling system including a reservoir with an "upper chamber, and a separate lower chamber having a recessed cavity" and an "impeller ... positioned in the recessed cavity such than an entire bottom face of the impeller is completely exposed to an inside surface of the heat exchanging interface."

Amended independent claim 108 recites a method of using a cooling system including circulating a cooling liquid between a reservoir and a heat radiator, the reservoir including "an upper chamber and a separate lower chamber that includes a recessed cavity," and "an impeller [] positioned in the recessed cavity such that an entire bottom face of the impeller is completely exposed to an inside surface of the heat exchanging interface."

As discussed above with reference to claim 103, Batchelder '165, Batchelder '844, Chu, Chou, and Athari do not disclose or suggest these aspects of amended independent claim 70 and 108. Alvaro does not remedy this deficiency. Therefore, Batchelder '165, Batchelder '844, Chu, Chou, Athari, and Alvaro, alone or in combination, do not disclose or suggest the limitations recited in amended independent claims 70 and 108. Therefore, amended independent claims 70 and 108 are allowable over these references.

Claims 72, 73, 74, and 77-82 depend from amended independent claim 70, and claims 109-112 depend from amended independent claim 108. Claim 105 depends from amended independent claim 103. Therefore, these dependent claims are allowable over the cited references at least the same reasons their respective independent claims are allowable over the cited references.

Rejections of claims 85, 86, and 88

In the Office Action, claims 85, 86, and 88 were rejected as being obvious over Batchelder '165 in view of Chu, Batchelder '844, Chou, Athari, Alvaro and Bingler. Office Action, pg. 10. Among these claims, claims 86 has been cancelled. Claims 85 and 88 depend from amended independent claim 70. As discussed with reference to the rejection of claim 70, Batchelder '165, Batchelder '844, Chu, Chou, Athari, and Alvaro do not disclose or suggest the limitations of amended independent claim 70. Bingler does not rectify this deficiency. Therefore, claims 85 and 88 are allowable over Batchelder '165, Batchelder '844, Chu, Chou, Athari, Alvaro, and Bingler at least for this reason.

New claims 113-117 are allowable over the cited references

Among these claims, claims 113-116 depend from amended independent claim 70, and claim 117 depends from amended independent claim 103. Therefore, these claims are allowable at least for the same reasons discussed above with reference to amended independent claims 70 and 103.

CONCLUSION

In view of the above remarks, Applicant respectfully submits that the pending claims are in condition for allowance. Accordingly, Applicant respectfully requests reconsideration and re-examination of this application and the timely allowance of the pending claims.

The Office Action contains characterizations of the claims and the related art, with which Applicant does not necessarily agree. Unless expressly noted otherwise, Applicant declines to subscribe to any statement or characterization in the Office Action.

Applicant respectfully requests that the Examiner contact the undersigned, if he considers that the present response does not overcome the prior art of record. The undersigned can be reached at (202) 408-4230.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER, L.L.P.

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By: 
Biju I. Chandran
Reg. No. 63,684